

KIC 002581554

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
002581554-01	OBS	3835.01	47.148489	175.268365	1118.2	3.429	57.1	58.8	0.73	4975	2.97	5.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002581554-01	OBS	PC	0.99	0	0	0	0	NO_COMMENT

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

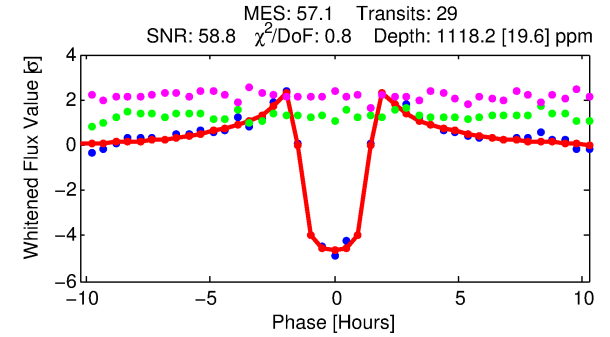
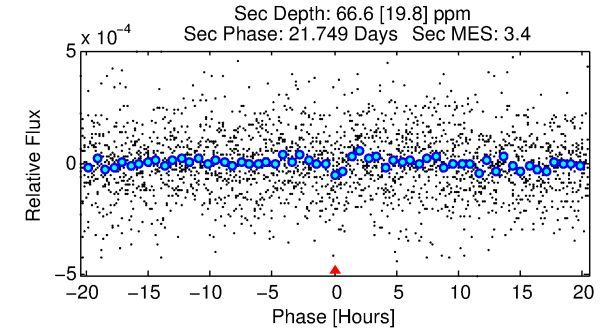
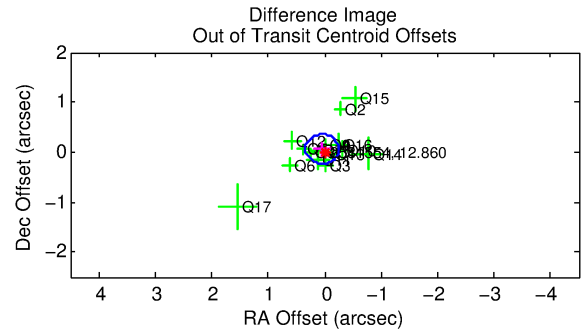
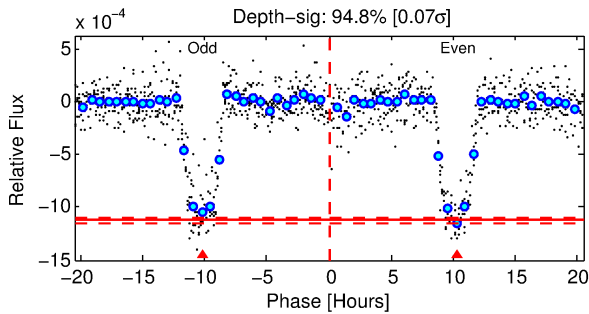
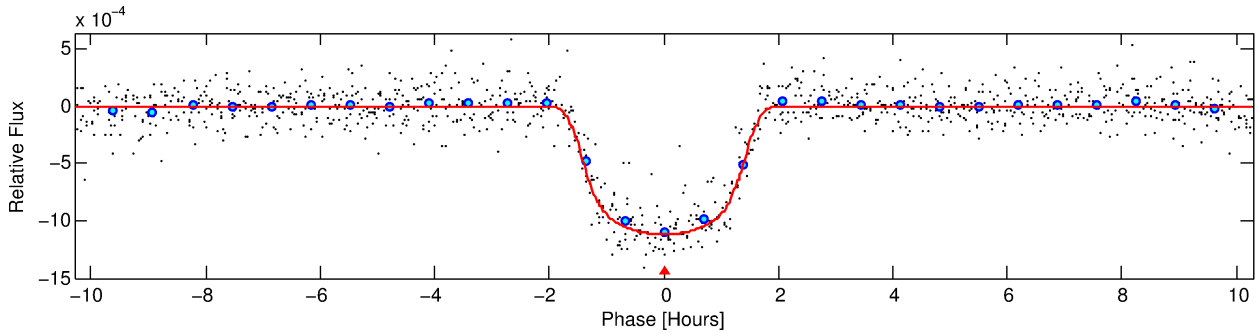
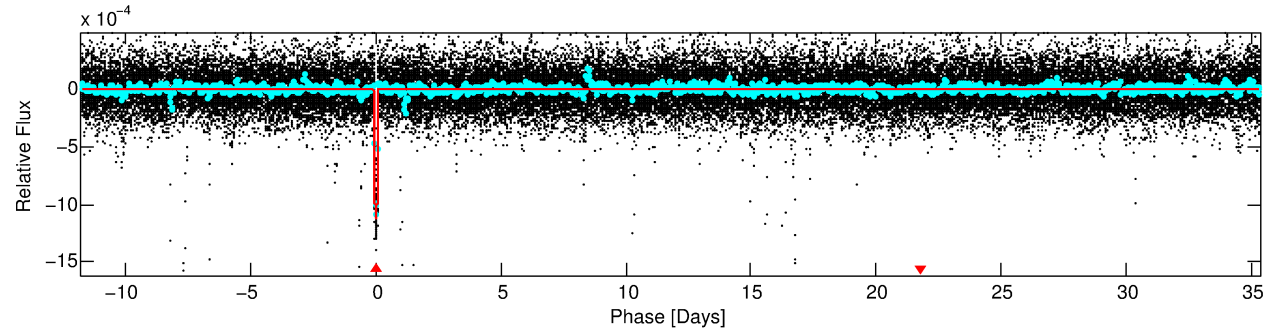
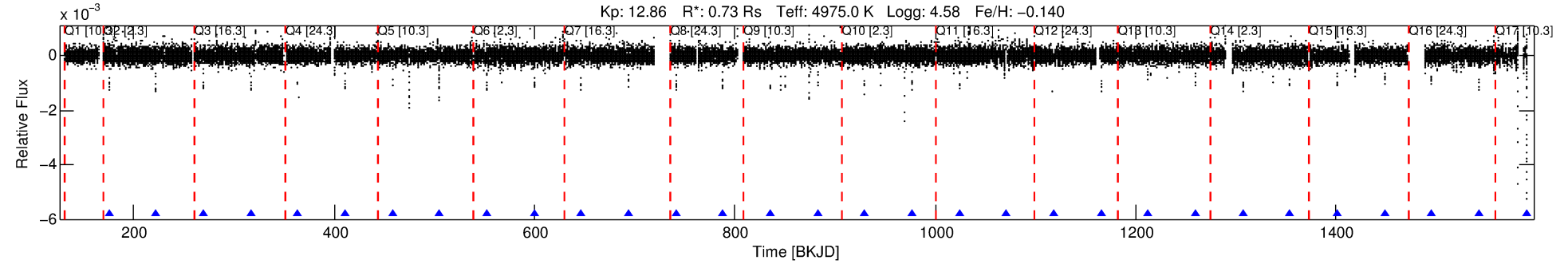
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002581554-01

No Significant Match Found

DV One-Page Summary

KIC: 2581554 Candidate: 1 of 1 Period: 47.148 d
KOI: K03835.01 Corr: 0.944



DV Fit Results:

Period = 47.14849 [0.00005] d
Epoch = 175.2684 [0.0009] BKJD
Rp/R* = 0.0371 [0.0010]
a/R* = 55.17 [4.72]
b = 0.89 [0.02]
Seff = 5.51 [0.58]
Teq = 391 [10] K
Rp = 2.97 [0.18] Re
a = 0.2316 [0.0106] AU
Ag = 222.65 [68.85] [3.22 σ]
Teffp = 2333 [182] K [10.65 σ]

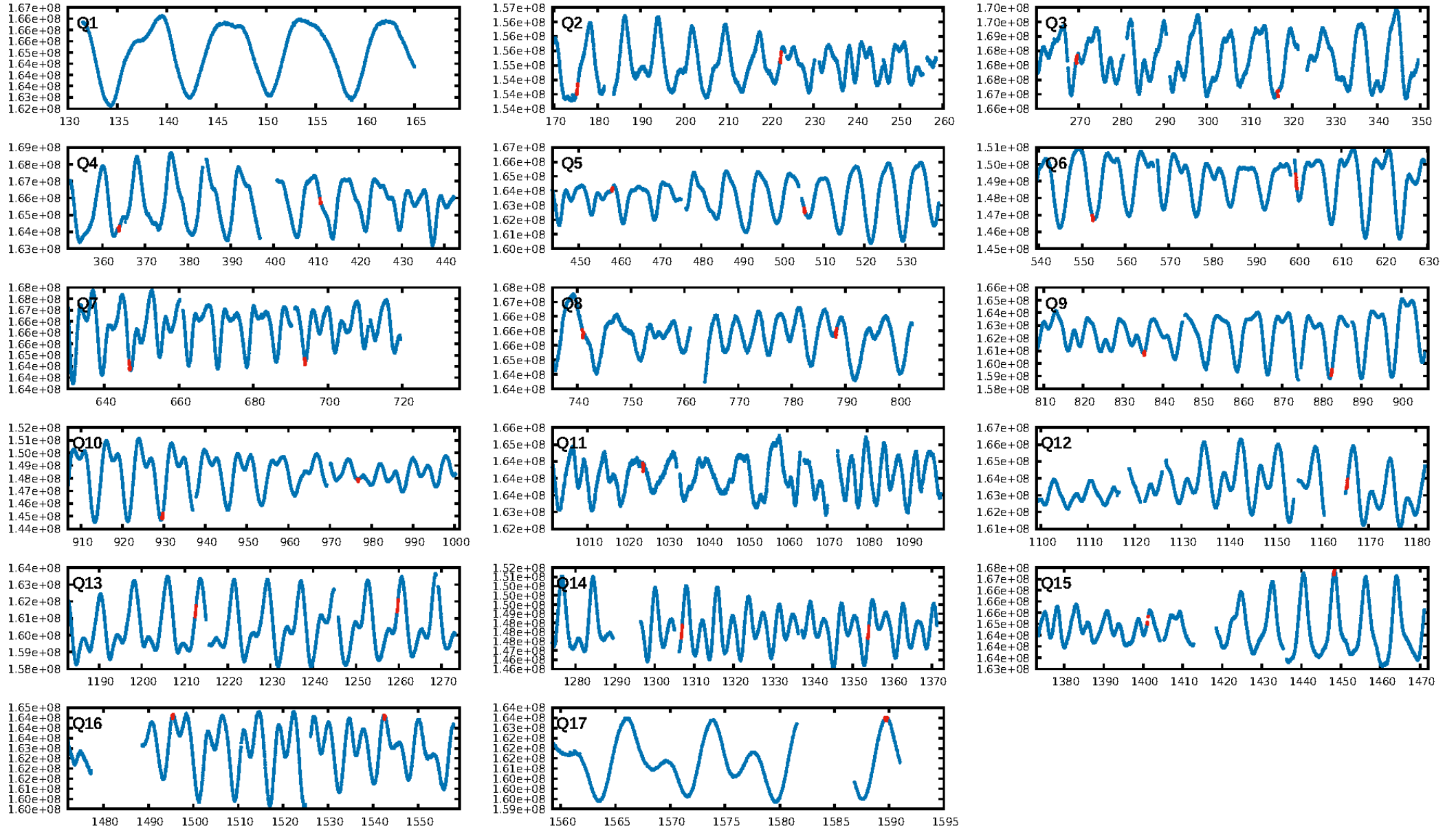
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 78.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.86e-254
RollingBand-fgt: 1.00 [28/28]
GhostDiagnostic-chr: 2.554
Centroid-sig: 43.1%
Centroid-so: 0.109 arcsec [0.64 σ]
OotOffset-rm: 0.078 arcsec [0.79 σ]
KicOffset-rm: 0.347 arcsec [3.57 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [16/16]

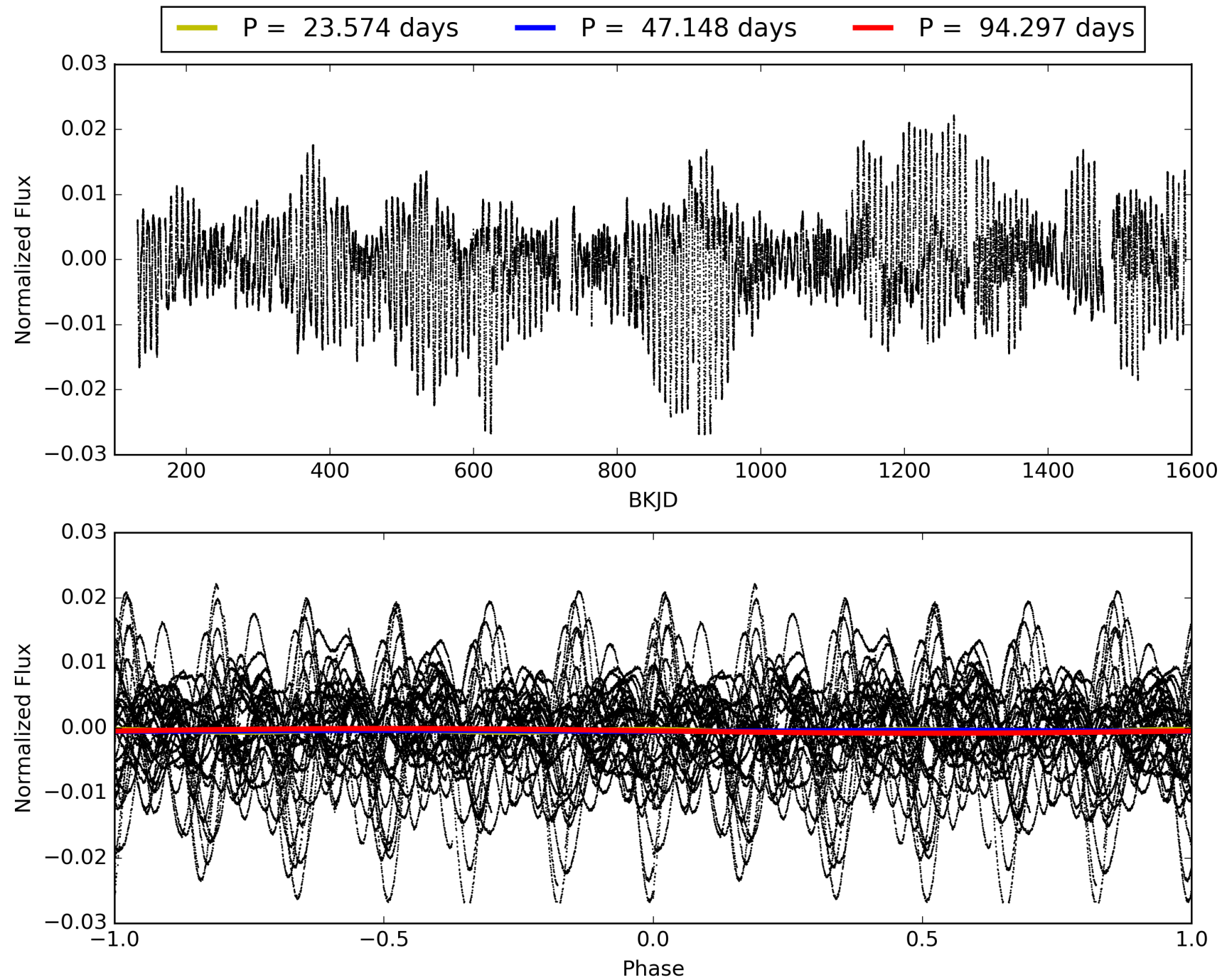
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:43:34 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 002581554-01, PDC Light Curves

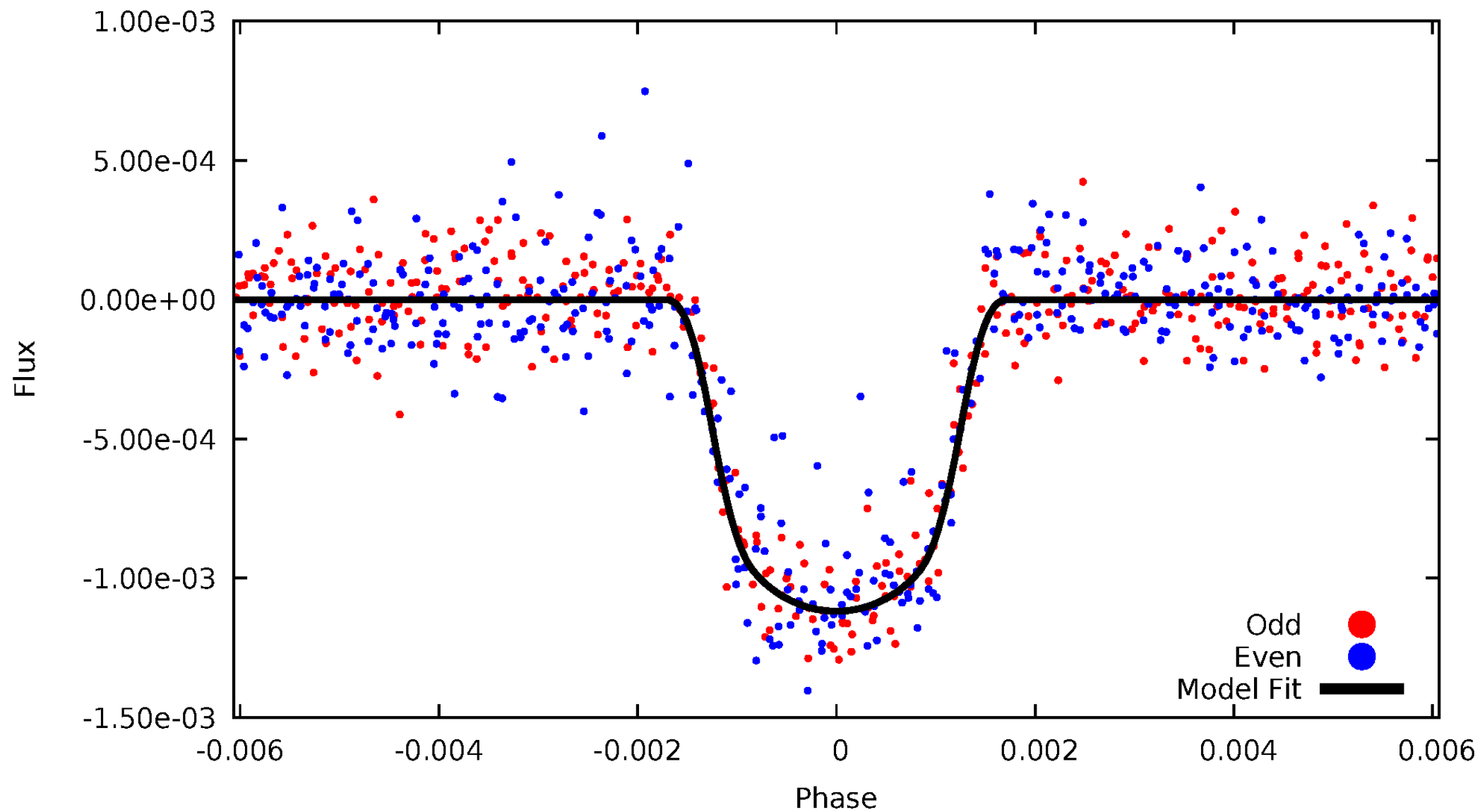


TCE 002581554-01



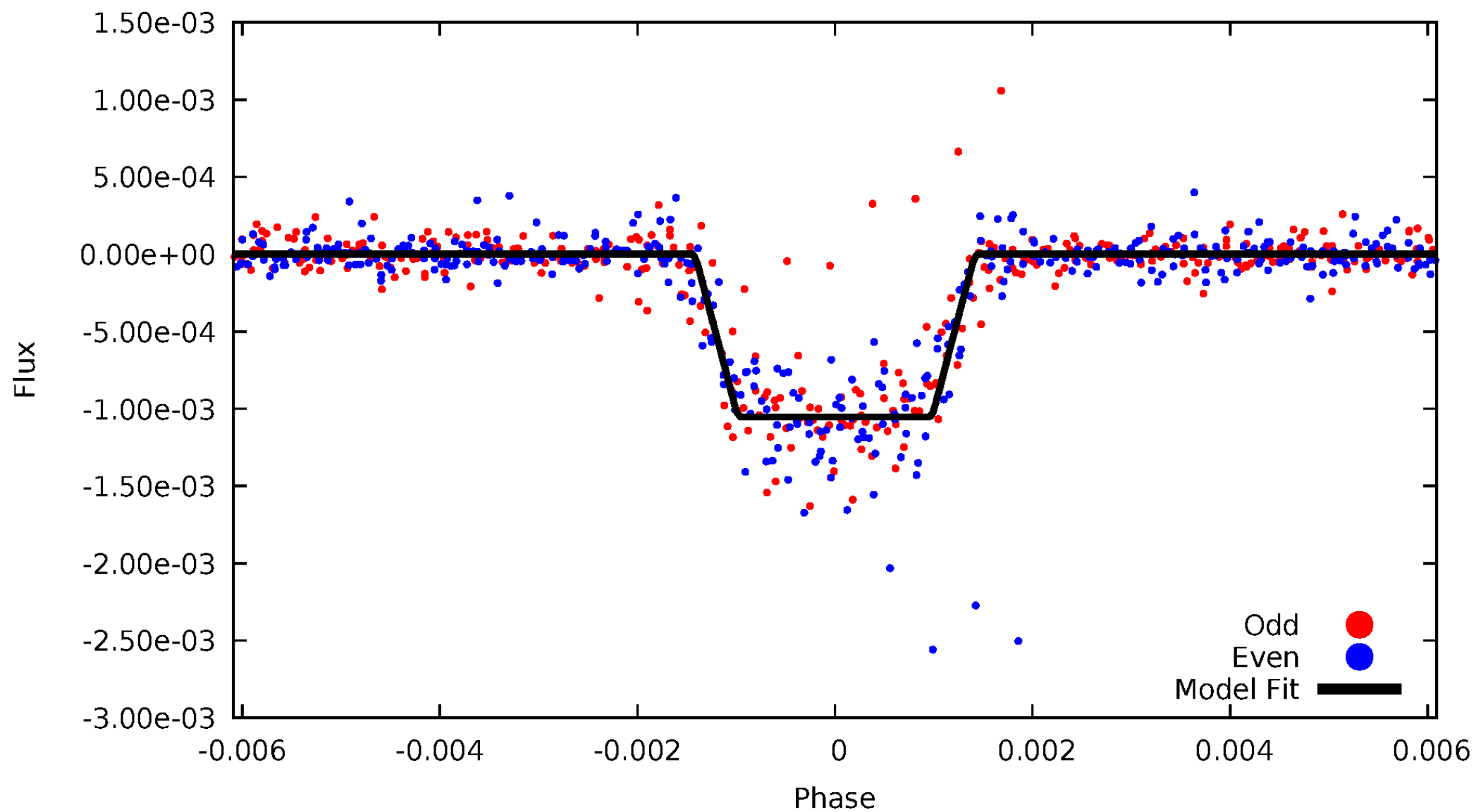
DV Odd/Even

TCE 002581554-01



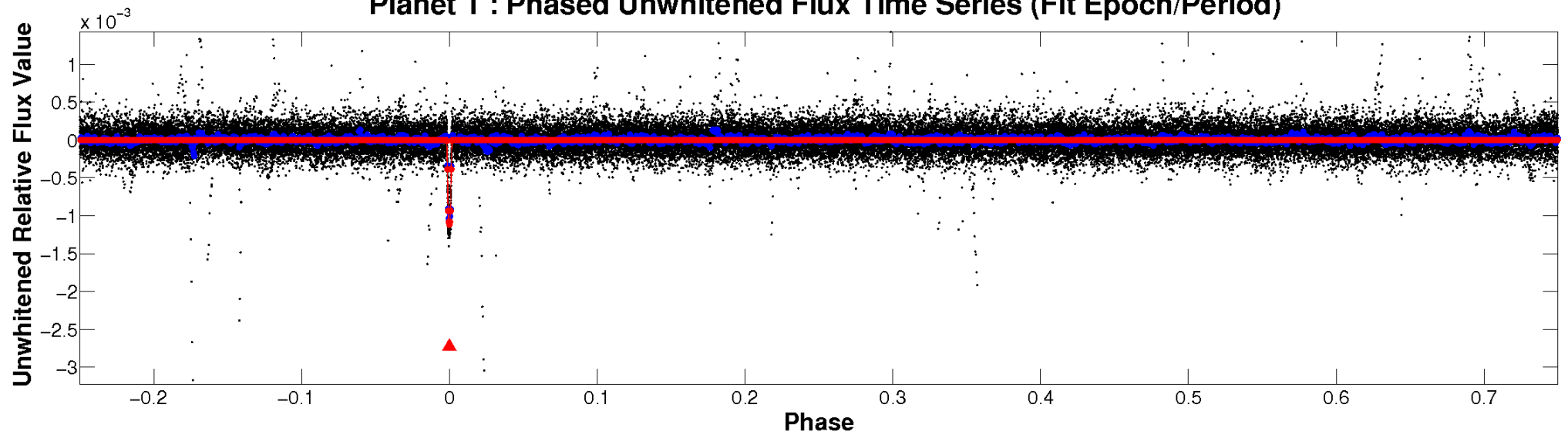
ALT Odd/Even

TCE 002581554-01

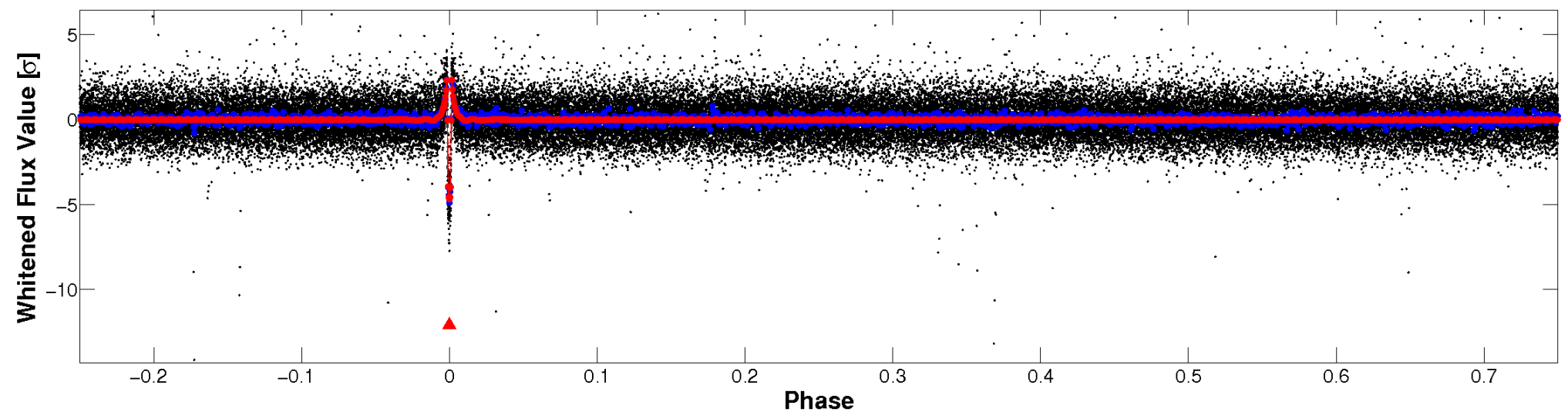


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

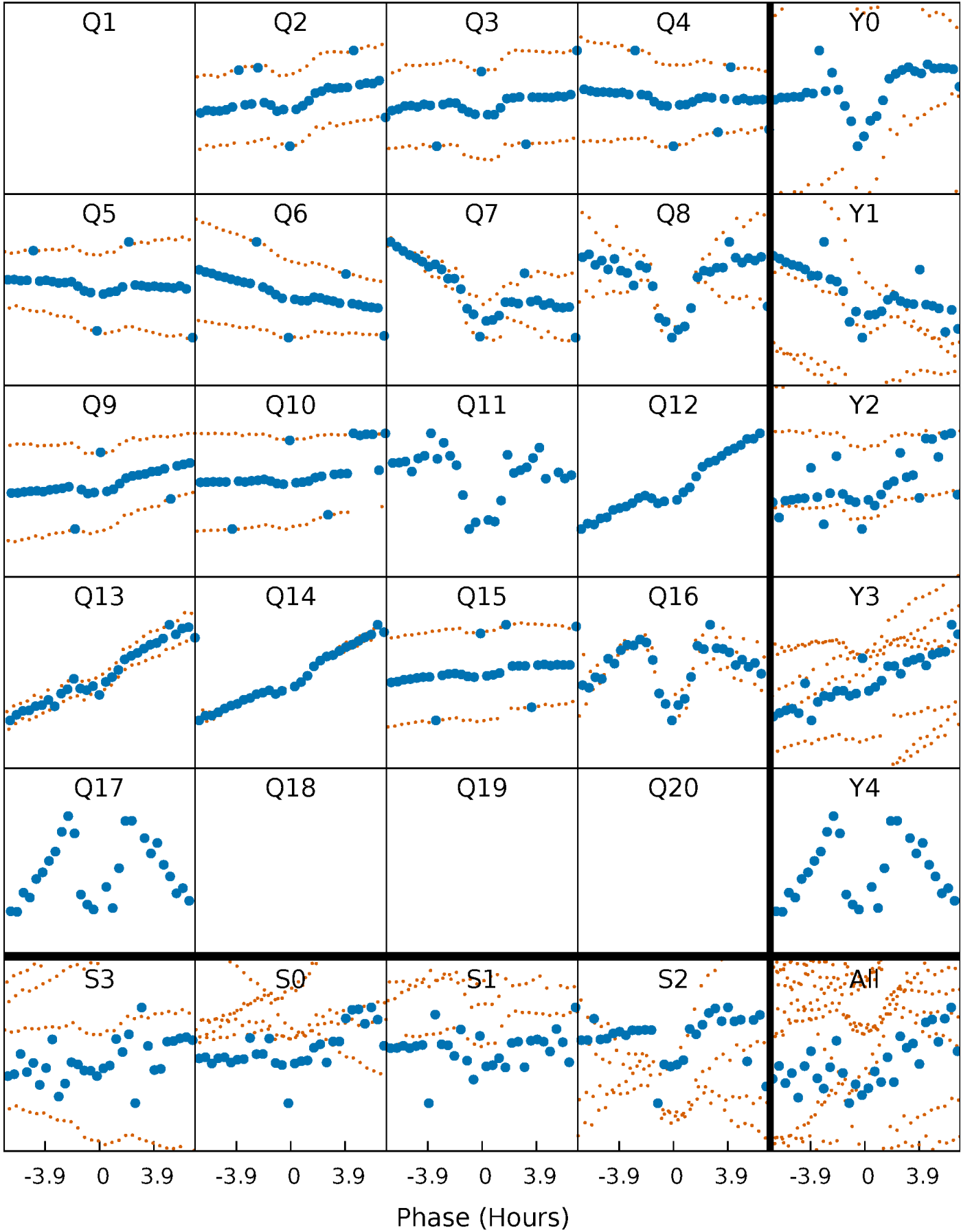


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



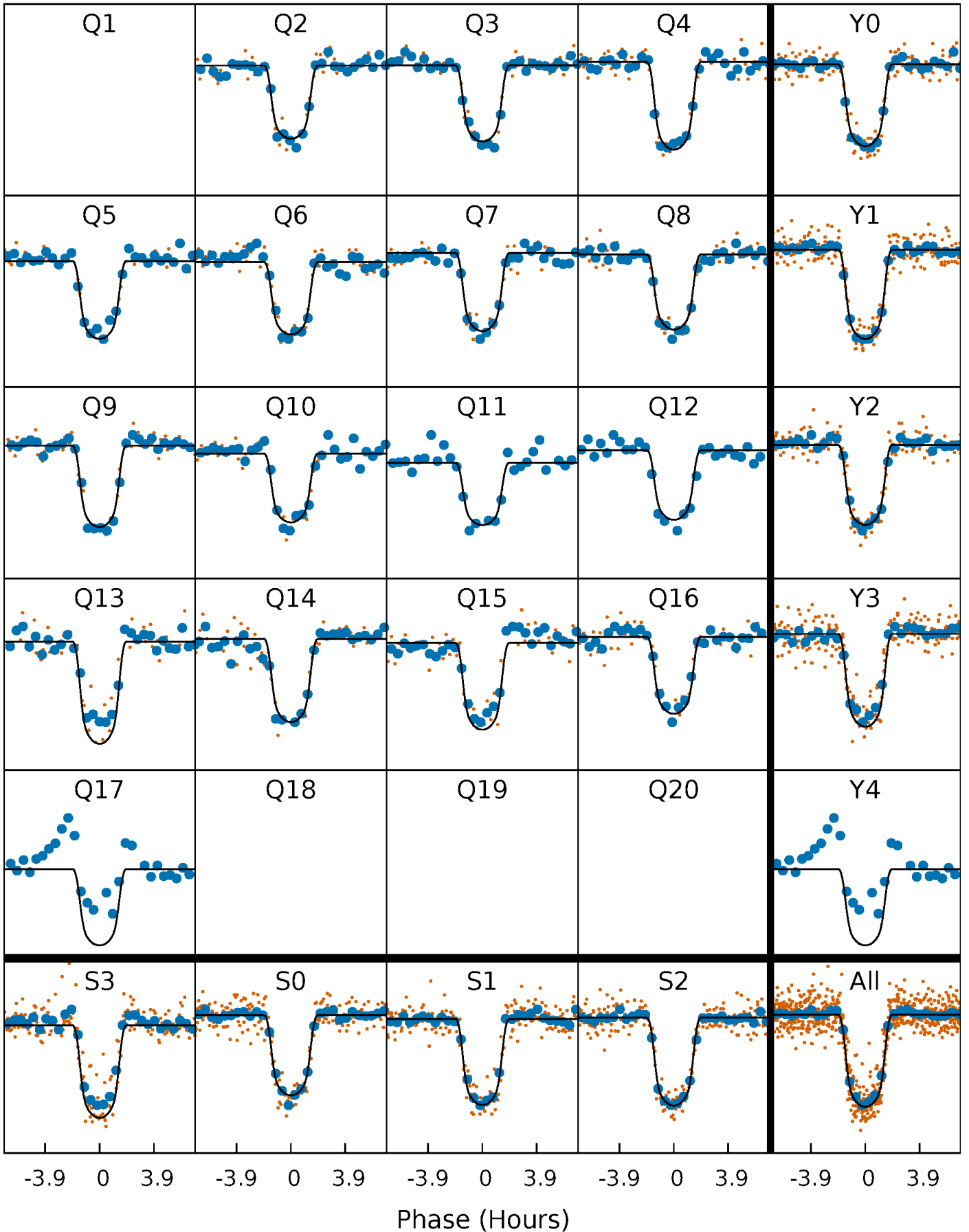
PDC Quarter-Phased Transit Curves

TCE 002581554-01 P= 47.148489 Days $T_0=175.268365$ (BKJD)



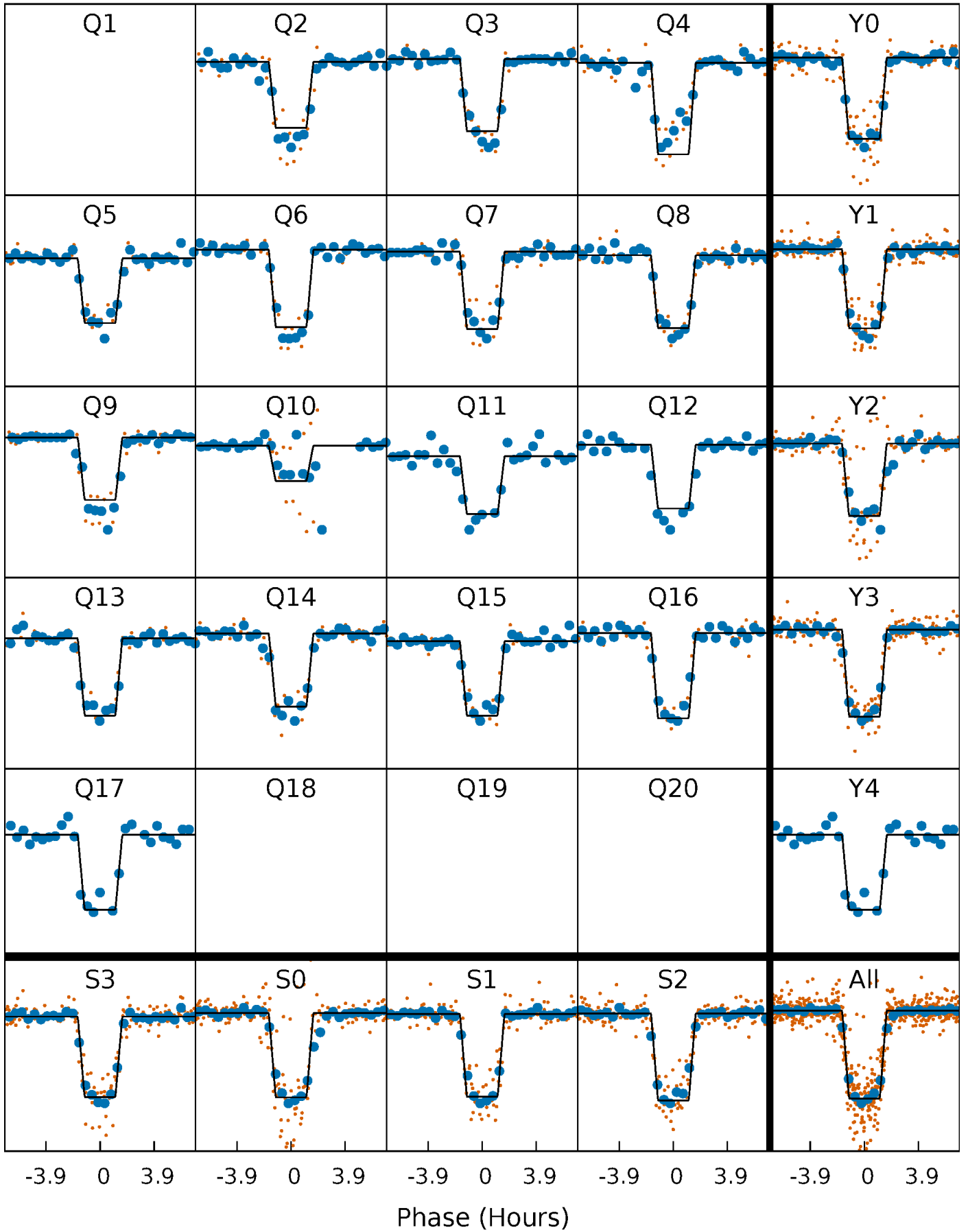
DV Quarter-Phased Transit Curves

TCE 002581554-01 P= 47.148489 Days $T_0=175.268365$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

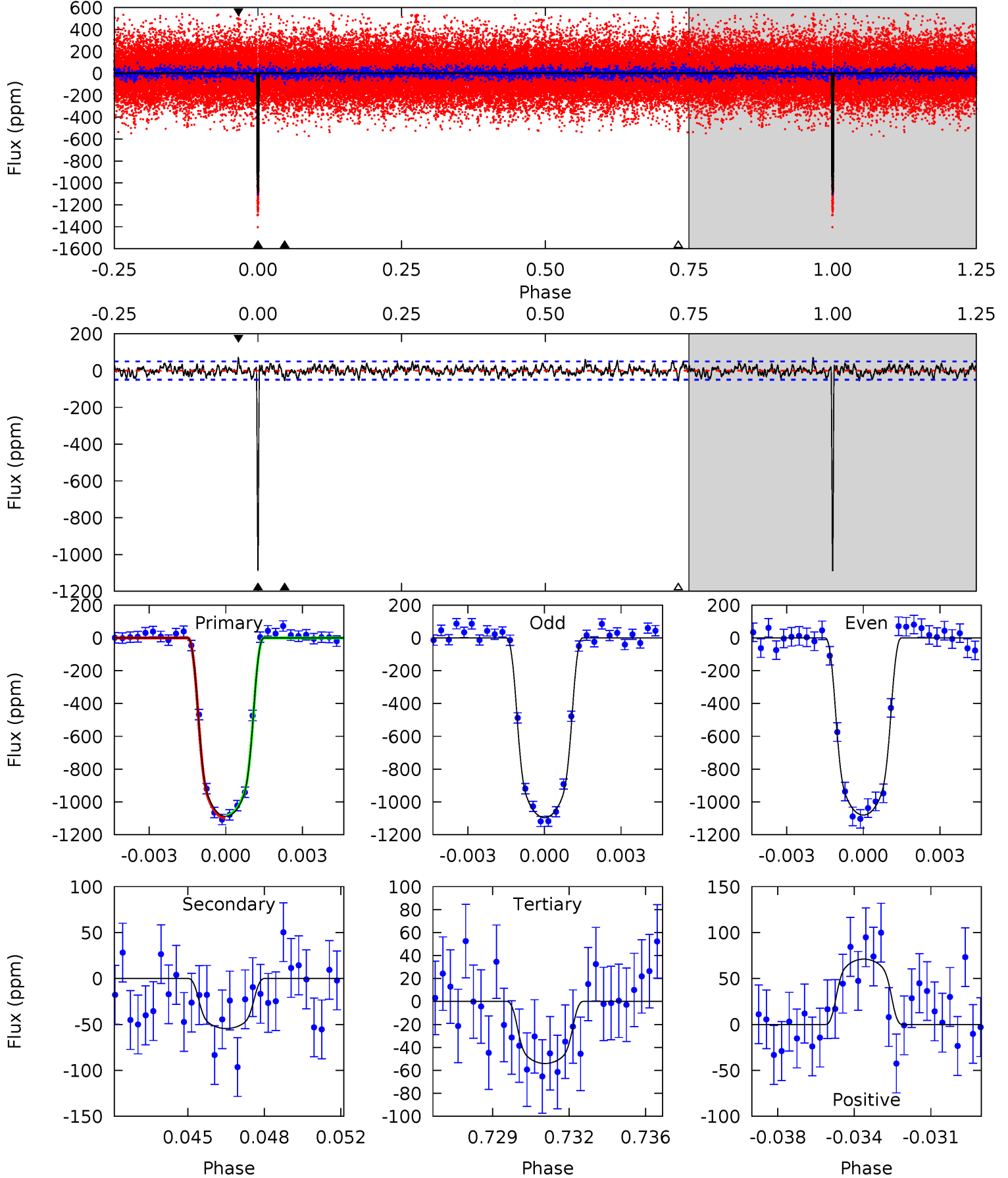
TCE 002581554-01 P= 47.148647 Days $T_0=175.266779$ (BKJD)



DV Model-Shift Uniqueness Test

002581554-01, P = 47.148489 Days, E = 128.119876 Days

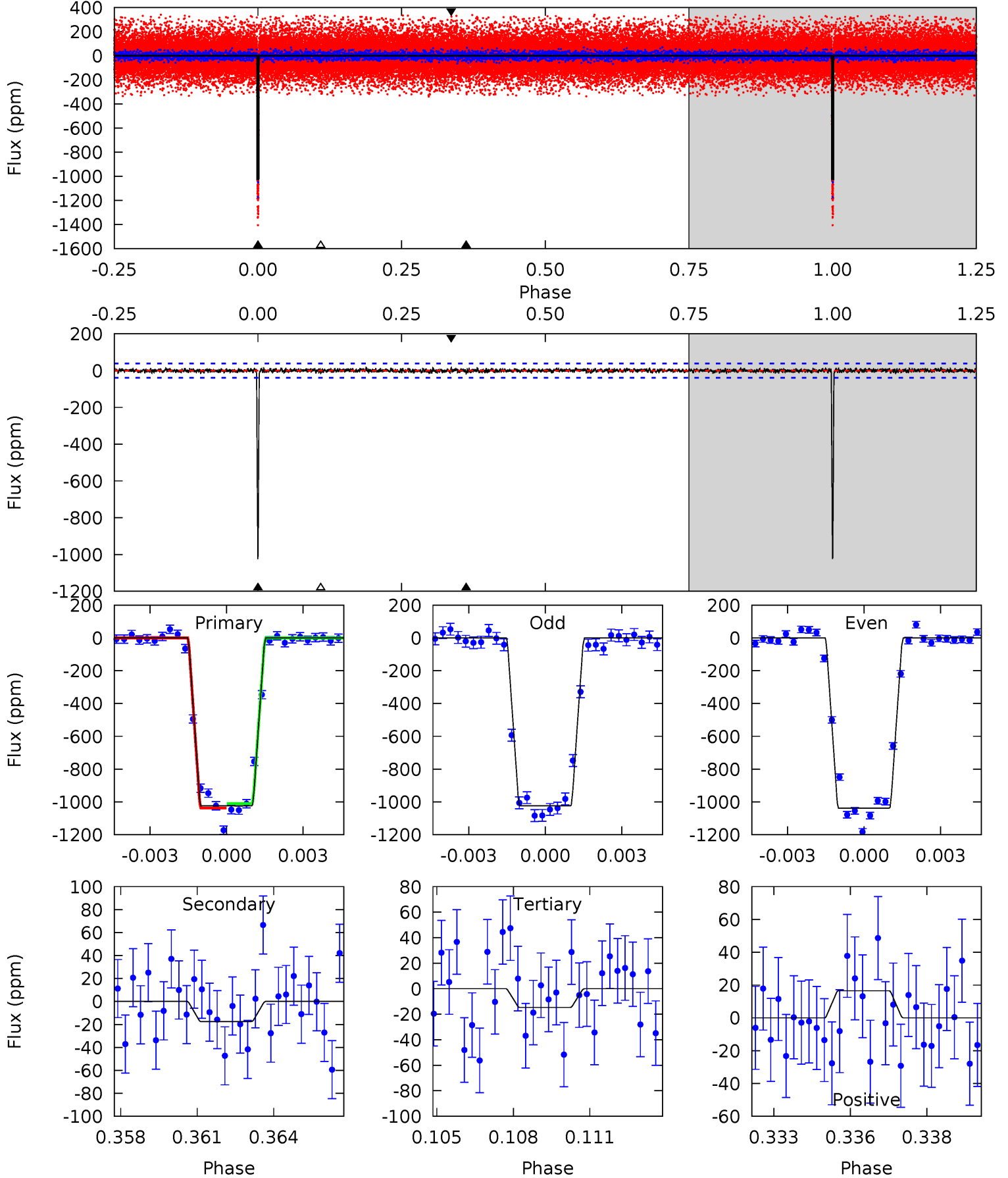
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
114.6	5.74	5.69	7.49	5.23	2.93	1.86	108.9	107.1	0.05	-1.75	0.82	0.97	0.06	0.88



Alt Model-Shift Uniqueness Test

002581554-01, P = 47.148647 Days, E = 128.118132 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
139.8	2.37	2.00	2.25	5.26	2.98	0.65	137.8	137.5	0.38	0.12	0.94	1.01	0.02	1.87



Stellar Parameters For KIC 002581554

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4975^{+100}_{-100}	$4.579^{+0.038}_{-0.031}$	$-0.140^{+0.150}_{-0.150}$	$0.734^{+0.039}_{-0.039}$	$0.746^{+0.047}_{-0.036}$	$2.657^{+0.396}_{-0.285}$
	+2%/-2%	+1%/-1%	+107%/-107%	+5%/-5%	+6%/-5%	+15%/-11%
Source	SPE59	SPE59	SPE59	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 002581554-01 / KOI 3835.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-54 ± 9	$2.98^{+0.13}_{-0.12}$	545^{+13}_{-14}	2891^{+78}_{-81}	184^{+36}_{-34}
Alt.	-17 ± 7	$2.60^{+0.12}_{-0.11}$	546^{+13}_{-13}	2574^{+125}_{-172}	74^{+34}_{-30}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

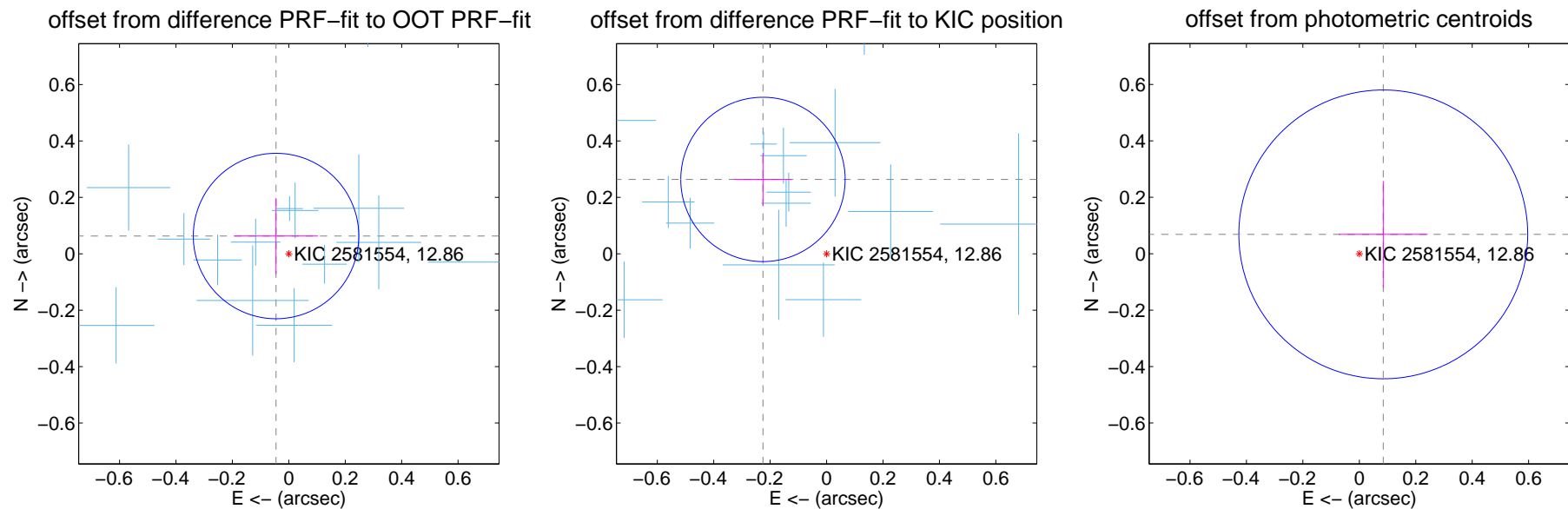
DV Centroid Data

Supplemental centroid analysis for 002581554-01. Kepler magnitude: 12.86. Transit SNR 58.75

There are 16 quarters with good PRF difference image offsets

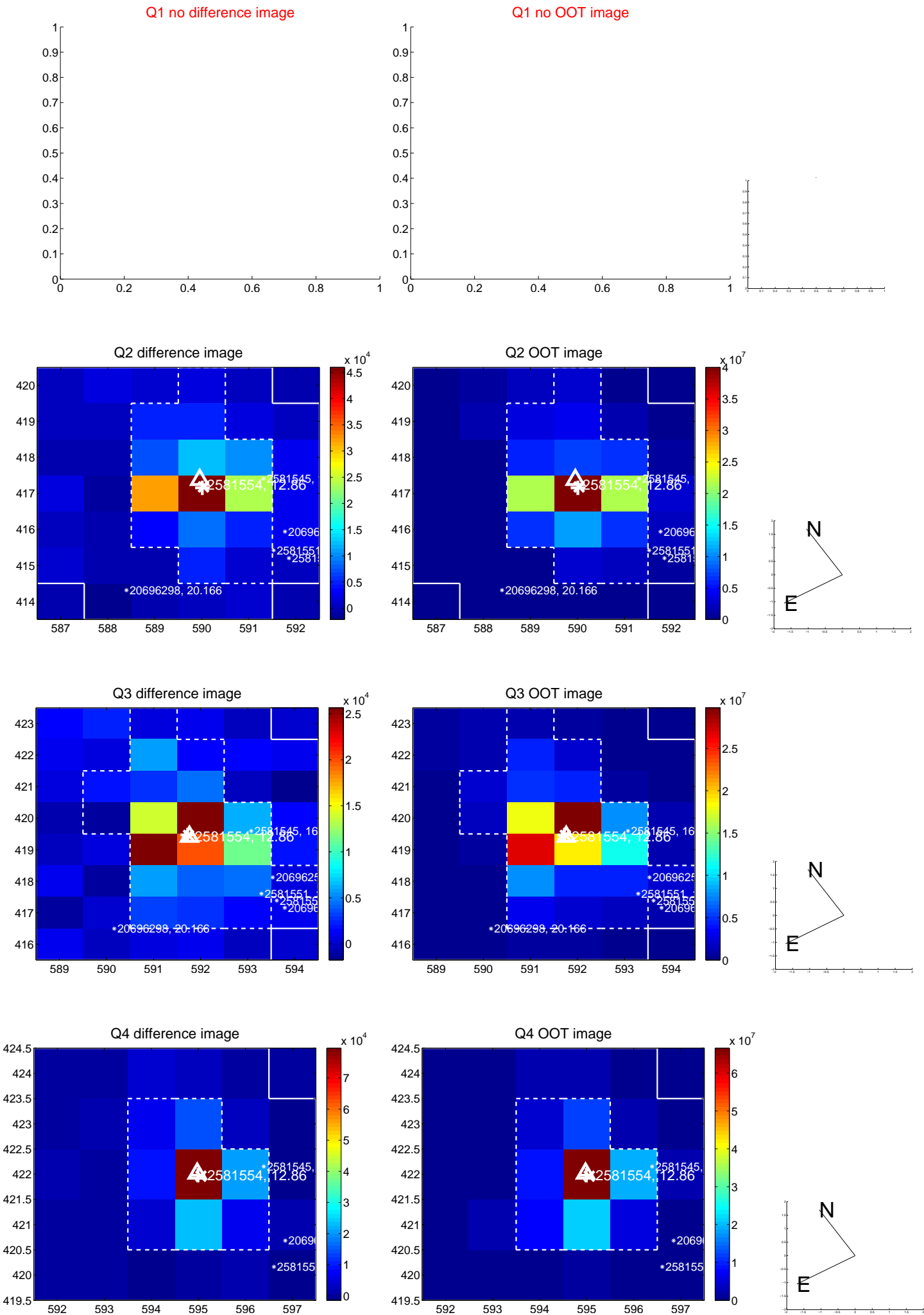
The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.078 ± 0.098	0.79	0.045 ± 0.149	0.063 ± 0.134
PRF-fit source offset from KIC position	0.347 ± 0.097	3.57	0.226 ± 0.101	0.264 ± 0.094
photometric centroid source offset	0.11 ± 0.17	0.64	-0.08 ± 0.16	0.07 ± 0.19

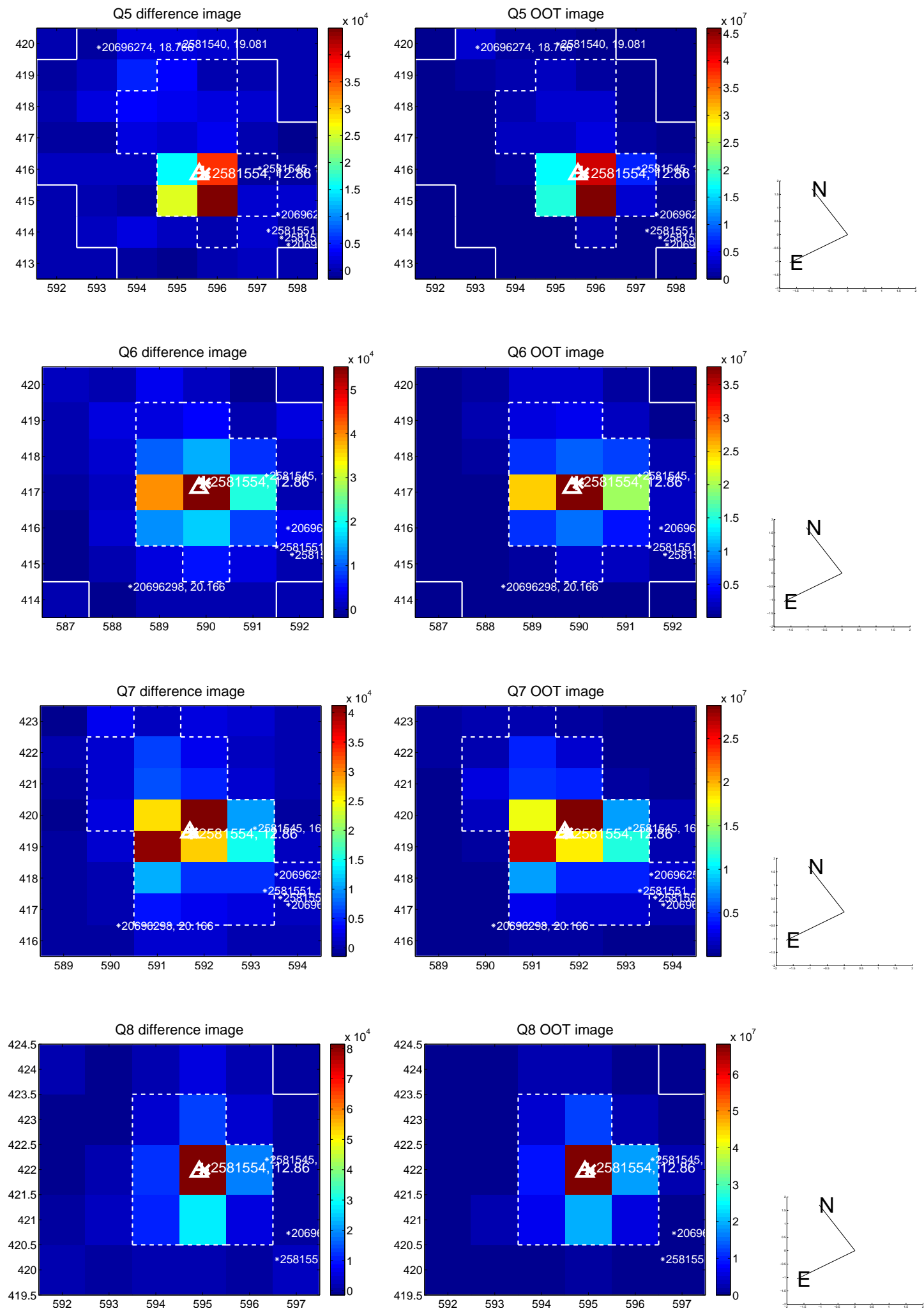


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

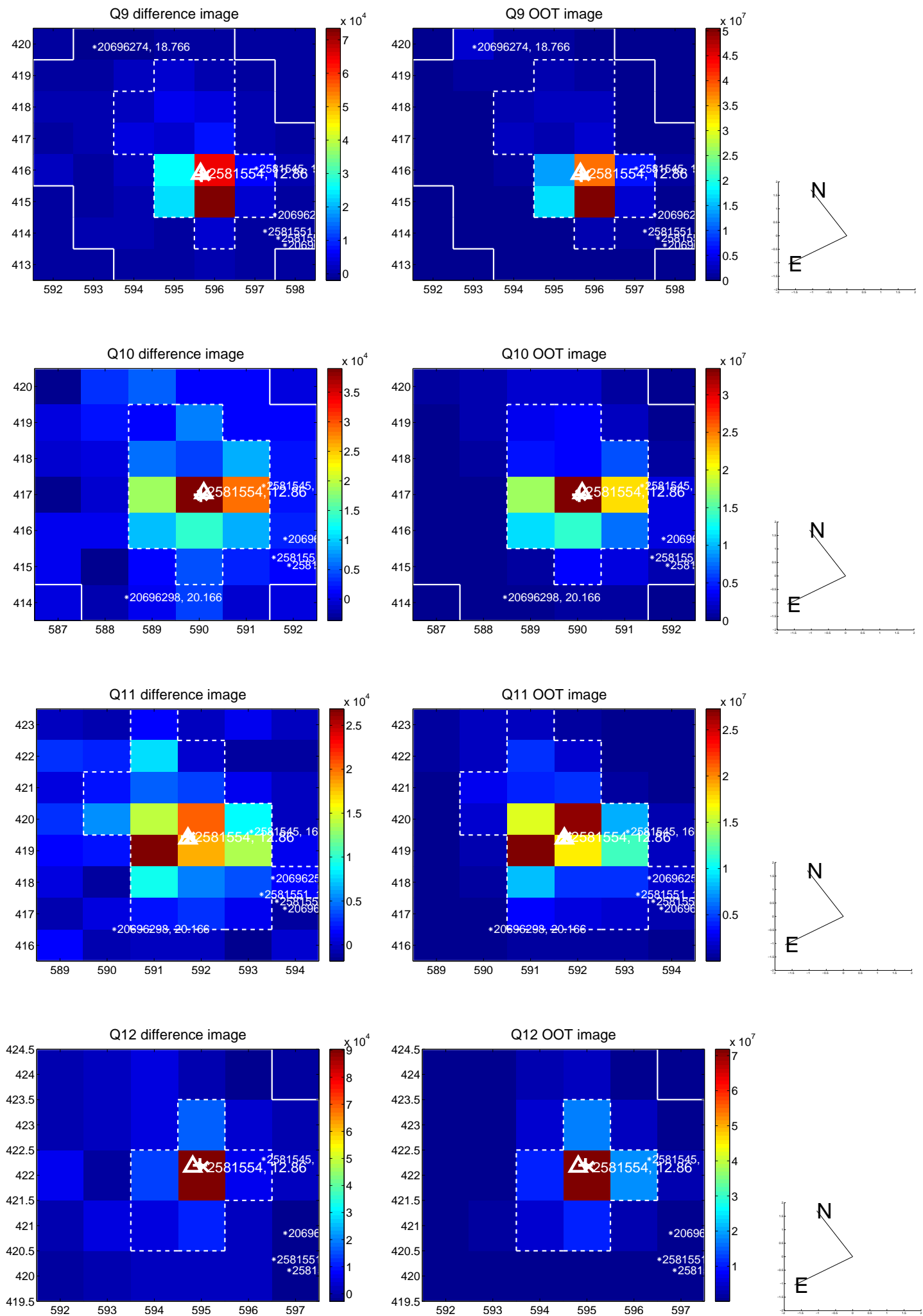
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



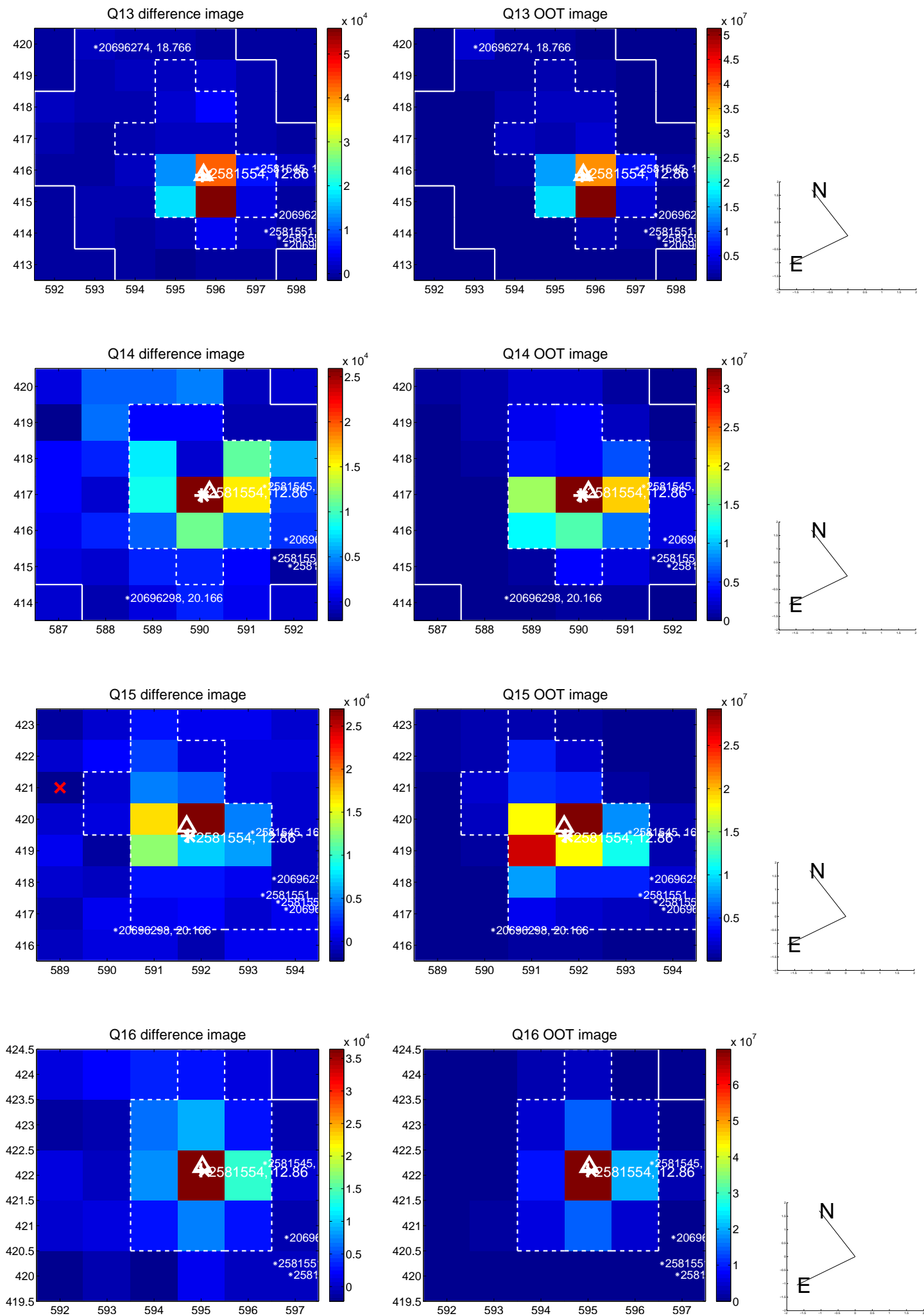
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



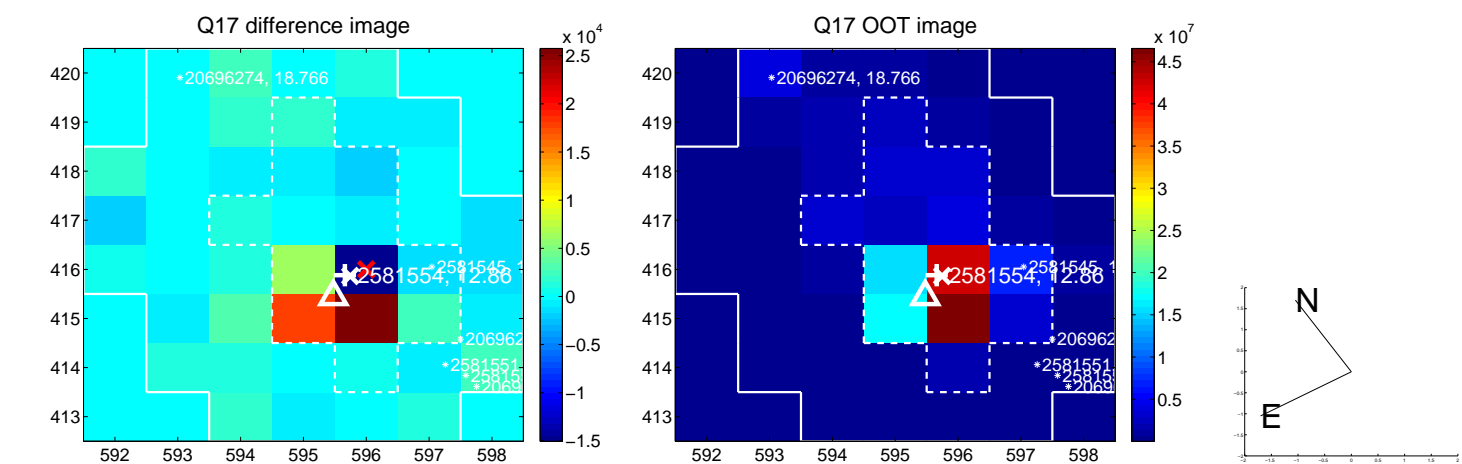
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



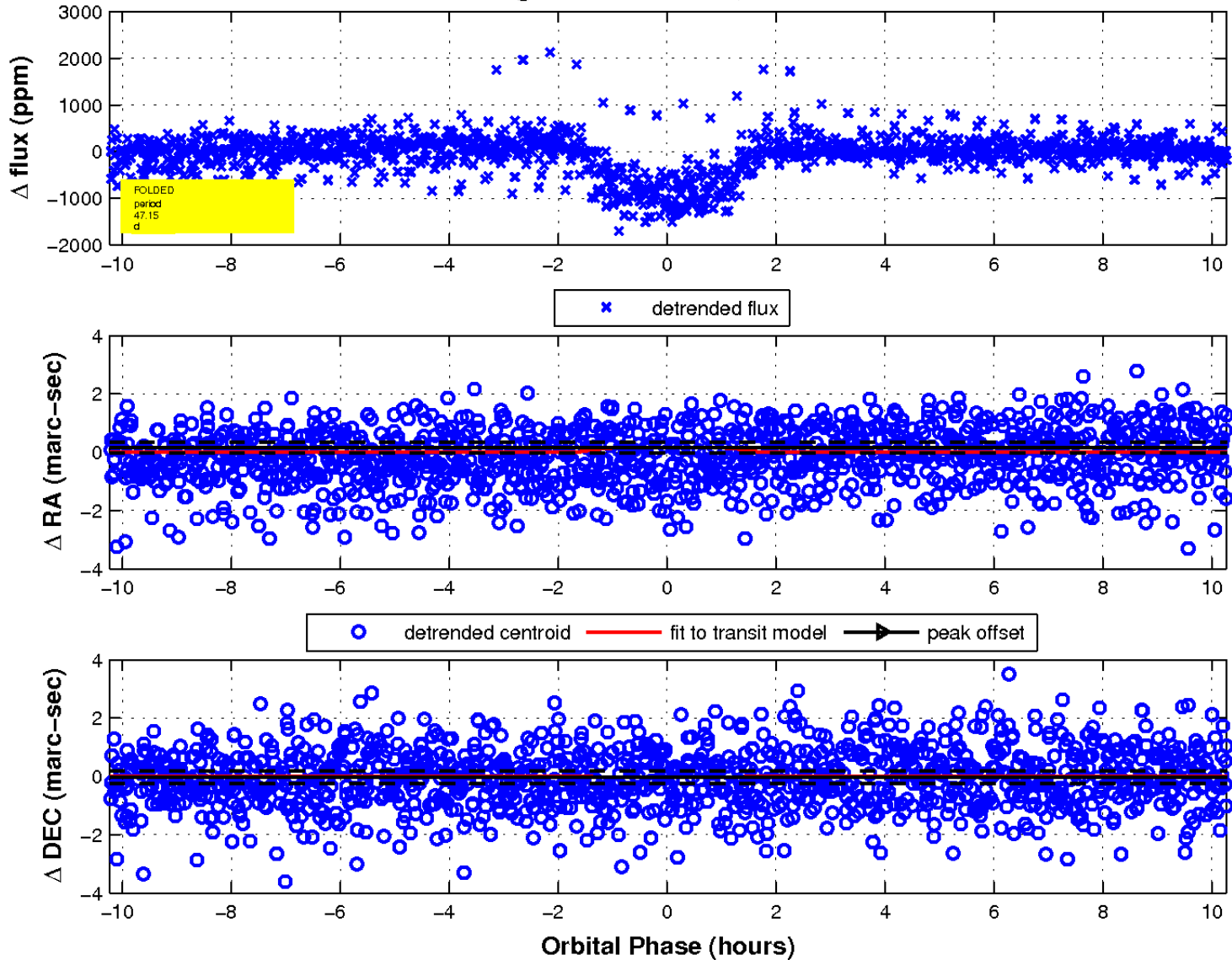
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

